

Book Reviews

EVOLUTION AND ECOLOGY OF MACAQUE SOCIETIES. Edited by John E. Fa and Donald G. Lindburg. New York: Cambridge University Press. 1996. 597 pp. ISBN 0-521-41680-0. \$125.00 (cloth).

Macaques have gained a reputation as the generic monkey. There have been more field and laboratory studies of macaques than any other monkey, and more species of the genus *Macaca* have been examined than any other primate taxonomic group. We have also learned quite a bit about monkey life from macaques, such as the importance of hierarchy and rank, the consequences of an intense social life, and the importance of kin in interpersonal relationships. Significantly, macaques have often served as the behavioral template against which many other systems are compared. And yet, as the field of primatology has expanded over the past three decades, macaques have often been brushed aside for more unusual or less known species among the Platyrrhines or Colobines, or dismissed as not particularly relevant compared to species, such as bonobos, more phylogenetically related to humans. Guess what, folks? The macaques are back.

The first edited volume on macaques, *The Macaques; Studies in Ecology, Behavior, and Evolution*, appeared in 1980. It covered five species in 13 chapters, a well-received, edited volume that is still referred to today. Fa and Lindburg's new compilation shows that even though macaques have not been celebrity primates for a while, they still draw a crowd. In 25 chapters, the 53 authors from 11 countries present a wide variety of subjects on an expansive range of macaque species. Every topic from conservation to mating is covered. There are laboratory studies, work done for years in provisioned parks, established field studies, and sites in remote places. Most striking is the number of studies that have been conducted for 20 years or more. Only missing is information on the

Cayo Santiago rhesus macaques and the toque macaques of Sri Lanka, both surprising omissions.

These reports remind us that macaques have a unique place in primatology. Lest we forget, macaques are the most geographically widespread primate after humans. About 5 million years ago macaques radiated out of Africa, and they may have done this several times over the subsequent few million years. Reflecting the waves of human migration out of Africa, they spread mostly east into Asia. But unlike humans, the macaque diaspora produced a plethora of species; today there are approximately 19 species living in all types of habitats. The three chapters on biogeography and evolution in this volume demonstrate how illustrative macaque movements are to our understanding of the process of evolution. Sulawesi alone, with its waves of macaque radiation from Kalimantan and its series of island bridges and flooding that continue to cause speciation or hybridization, is a veritable funhouse of evolution; Darwin's finches have nothing on Sulawesi's macaques.

The second section of the book, Population Biology, Ecology, and Conservation, is a celebration of macaque variety, which researchers have used to their advantage. Caldicott and colleagues compare pig-tail macaques to the also-elusive drills; Ménard and Vallet present a within-species comparison of two groups of Barbary macaques in Algeria; Wheatley and colleagues compare temple and feral long-tail macaques in Indonesia. Most striking is the move to legitimize the study of troops that regularly interact with humans in tourist areas or on temple grounds in China, Gibraltar, India, and Bali. Since some macaques are good at adapting to human encroachment or to human provisioning, these studies may provide answers to major conservation issues and help with the perilous state of macaques in other, more fragile, habitats.

The third section, Mating and Social Systems, returns to questions of inter-individual interaction. Taken together, these

chapters point out that there is great variation in behavior across species, within species, and within individual animals over time. For example, some macaques are seasonal breeders, some have large perineal swellings, and some demonstrate paternal care. More to the point, as several chapters explain, these differences have reproductive consequences, and they make evolutionary sense for any particular monkey in each particular social system. But, as Rhine and Maryanski suggest, there is more to macaque life than just understanding broad patterns of behavior. Their chapter on individual personality might at first seem to be a series of singular anecdotes, but it also offers an intriguing possibility for further study.

The wide range of macaque behaviors and their ecological and social correlates could clearly be useful for those interested in weaving scenarios about human evolution. The appearance of swellings (or not) and the variation in swelling types alone should be fodder for testing hypotheses about the lack of swellings in hominids. The flexibility in mating tactics and sexual interaction exhibited by macaques echoes human variation in all matters sexual. And as Hauser shows, the extensive work on macaque vocalizations is a reasonable outline for examining the rudiments of human language and cognition. Chimpanzees might be more closely related, but macaques are still a reasonable blueprint for Haplorhine construction.

Edited books always have their ups and down, and this book is no different. But overall, the information is so valuable and timely that flaws of omission, a wish for more data in one or another study, and its outrageous price, can all be overlooked (if you can find it at the library). For those who already wear macaque glasses, as well as those who have not yet understood the appeal of this wonderful genus, this is the new macaque Bible.

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BOOKS RECEIVED

- Agosta, W (1997) *Bombardier Beetles and Fever Trees: A Close-up Look at Chemical Warfare and Signals in Animals and Plants*. New York: Addison Wesley, 224 pp. \$13.00 (paper).
- Betzig, L (ed.) (1997) *Human Nature: A Critical Reader*. New York: Oxford University Press, 489 pp. \$39.95 (paper).
- Boyce, AJ, and CGN Mascie-Taylor (eds.) (1996) *Molecular Biology and Human Diversity*. New York: Cambridge University Press, 305 pp. \$54.95 (cloth).
- Godfrey-Smith P (1996) *Complexity and the Function of Mind in Nature*. New York: Cambridge University Press, 311 pp. \$49.95 (cloth).
- Henry, CJK, and SJ Ulijaszek (eds.) (1996) *Long-Term Consequences of Early Environment: Growth, Development and the Lifespan in Developmental Perspective*. New York: Cambridge University Press, 253 pp. \$54.95 (cloth).
- Hilson, S (1996) *Dental Anthropology*. New York: Cambridge University Press, 373 pp. \$74.95 (cloth).
- Houghton, P (1996) *People of the Great Ocean: Aspects of Human Biology of the Early Pacific*. New York: Cambridge University Press, 292 pp. \$64.95 (cloth).
- Lahr, MM (1996) *The Evolution of Modern Cranial Diversity: A Study of Cranial Variation*. New York: Cambridge University Press, 416 pp. \$74.95 (cloth).
- Li, W-H (1997) *Molecular Evolution*. Sunderland, MA: Sinauer Associates, 487 pp. \$52.95 (cloth).
- Shephard, RJ, and A Rode (1996) *The Health Consequences of 'Modernization': Evidence From Circumpolar Peoples*. New York: Cambridge University Press, 306 pp. \$69.95 (cloth).
- Snowden, CT, and ME Hausberger (eds.) (1997) *Social Influences on Vocal Development*. New York: Cambridge University Press, 352 pp. \$74.95 (cloth).
- Webb, S (1995) *Paleopathology of Aboriginal Australians: Health and Disease Across a Hunter-Gatherer Continent*. New York: Cambridge University Press, 324 pp. \$59.95 (cloth).